



ARMY MATERIEL COMMAND

# Benchmarking A Depot Perspective

DOD Maintenance Symposium

27 October 2008

Colonel Douglas Evans

UNCLASSIFIED



# Benchmarking

Benchmarking is a process of continual improvement

Analysis begins with asking these questions:

1. What is the standard level of performance
2. Who is the best
3. How do I compare to the best



# Best Practices

- Identify organizations that are the very best
- Visit these organizations – focusing on cost, quality and delivery
- Implement these new and improved practices



# Benchmarking visits

## Private Sector

- **Autoliv** Multiple visits
- **AM General** Multiple visits
- **Boeing** Multiple visits
- **BAE (Bradley/MRAP)** Multiple visits
- **BAE (TVS)** Multiple visits
- **CAT** Multiple visits
- **Heil** Multiple visits
- **Oshkosh** Multiple visits
- **Raytheon** Multiple visits
- **Toyota** Multiple visits
- **WW Williams** Multiple visits



# Benchmarking Visits

## Public Sector

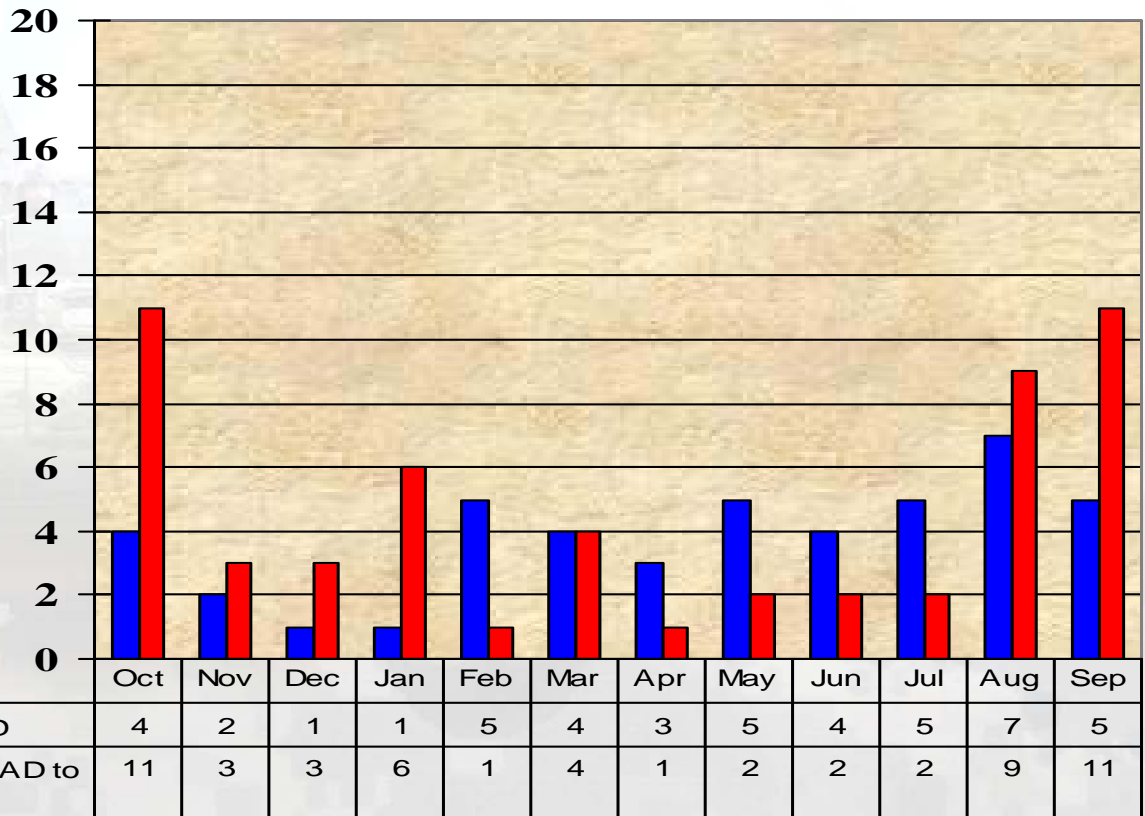
- Hill AFB Multiple visits
- Robbins AFB Multiple visits
- Marine (Maintenance Center Albany) Multiple visits
- Marine (Maintenance Center Barstow) Single visit
- Navy (Fleet Readiness Center Southeast) Multiple visits
- Anniston Army Depot Multiple visits
- Army Watervliet Arsenal Single visit
- Corpus Christi Army Depot Multiple visits
- Letterkenny Army Depot Multiple visits
- Sierra Army Depot Single visit
- Tobyhanna Army Depot Multiple visits
- Tooele Army Depot Single visit



# FY 07 BENCHMARKING TRIPS TO AND FROM RED RIVER ARMY DEPOT



COMMAND COMMUNICATION CENTERS

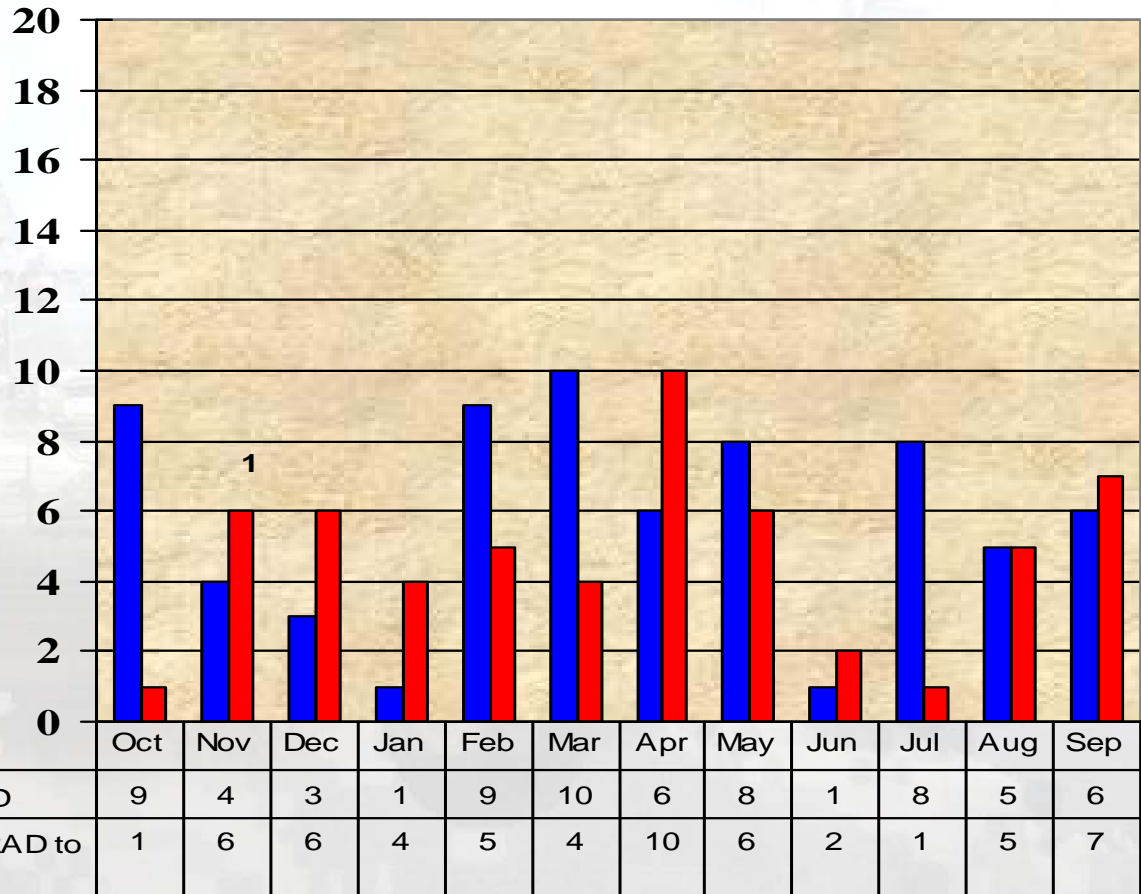




# FY 08 BENCHMARKING TRIPS TO AND FROM RED RIVER ARMY DEPOT



**Ergonomically friendlier process  
Saved 12 man-hours per unit  
Savings of \$69,000 per year**



<span style="color: blue;">■</span> Number of Trips To RRAD	9	4	3	1	9	10	6	8	1	8	5	6
<span style="color: red;">■</span> Number of Trips From RRAD to Other Sites	1	6	6	4	5	4	10	6	2	1	5	7



# Benchmarking Visit



Tool and work items crib  
Adopted from a benchmarking  
Visit to Oshkosh Truck and  
Hill Air Force Base





# HMMWV Mixed Model Shingo Gold 2007



Before



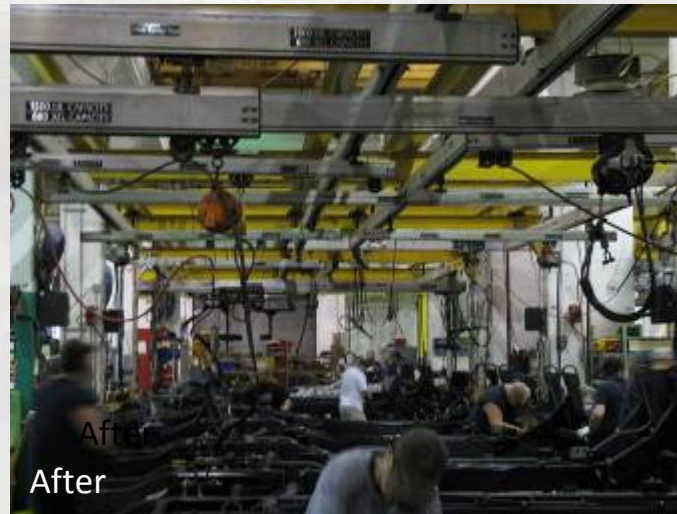
Before



After

- Increased Production from 3 Vehicles per Month in 2004 to up to 32 Vehicles per Day in February 2006
- Decreased man-hours per vehicle from 450 to 90
- Cost Avoidance of \$8.89M

GOLD



After



After



# Bradley Powertrain Shingo Silver 2007



- Reduced Direct Labor Hours from 116 to 72.5 per Unit
- Improved First Pass Yield from 86% to 97.64%
- Increased Output from 2 Units to 7 Units per Day
- Reduced Lead Time from 7 Days to 3 Days per Unit



SILVER



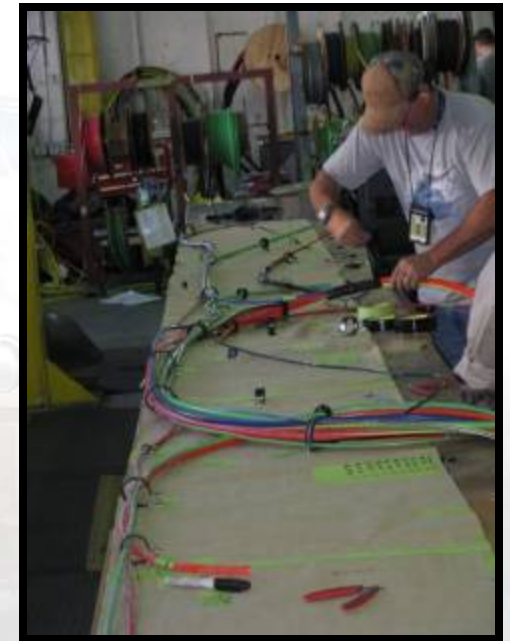


# HEMTT

## Shingo Silver 2008



- Productivity Improved from 2003 Hours per Vehicle to 1100 Hours per Vehicle
- Increased Output from 13 Vehicles to 32 Vehicles per Month
- Decreased Lead Time from 120 Days to 30 Days



SILVER





# Patriot Missile Shingo Bronze 2008



- Reduced Direct Labor Hours from 116 to 72.5 per Unit
- Improved First Pass Yield from 86% to 97.64%
- Increased Output from 2 Units to 7 Units per Day
- Reduced Lead Time from 7 Days to 3 Days per Unit

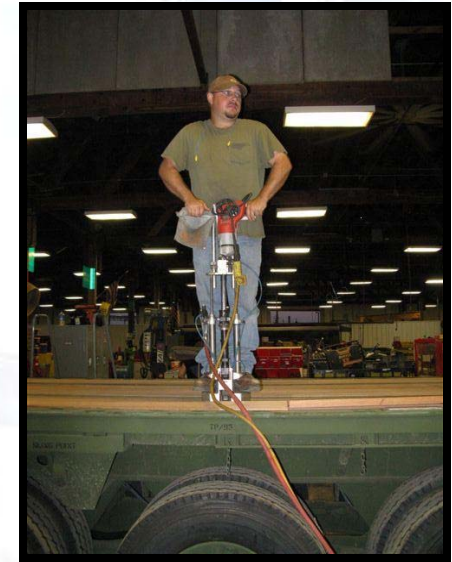
**BRONZE**





# Trailers

## Shingo Bronze 2008



- Tanker Trailers Before Lean - 290 man-hours per trailer;  
After Lean 230 Man-hours Per Trailer
- 872 Flatbed Trailers Before Lean - 244 Man-hours Per Trailer;  
After Lean 136 Man-hours Per Trailer
- RRAD Trailer Production Before Lean 20 - 25 Per Month;  
After Lean 100 Trailers Per Month

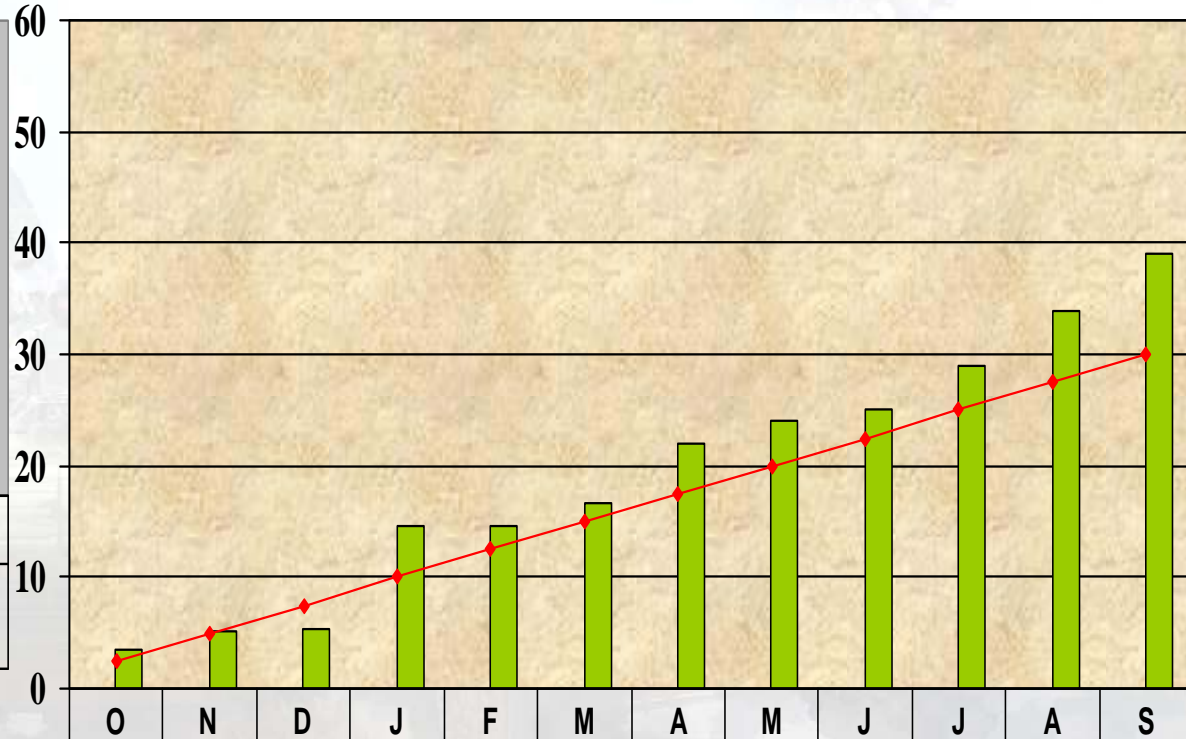
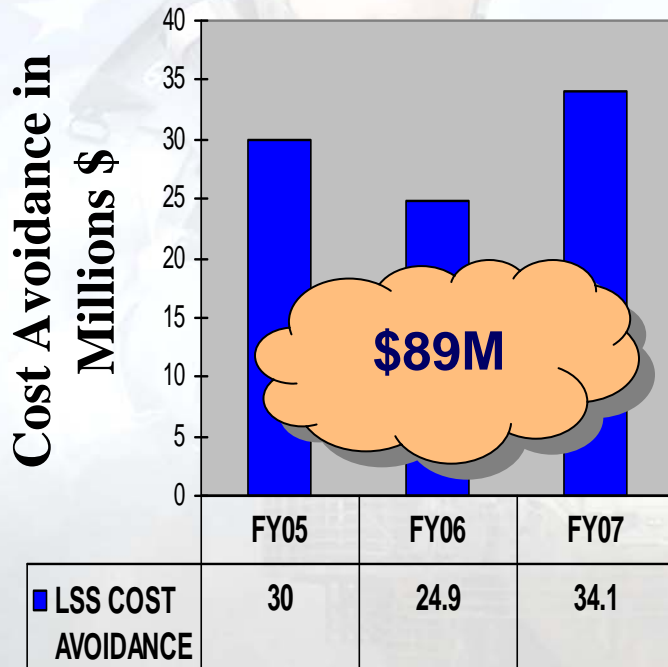
**BRONZE**





# Red River Army Depot Validated LSS Cost Avoidance

## FY08 Cost Avoidance



LSS Cost Avoid Sav (Mon)	3.5	1.7	0.2	9.07	0.01	2.1	5.3	2.3	0.75	3.7	5.1	4.8
LSS Cost Avoid Sav (Cum)	3.5	5.2	5.4	14.5	14.5	16.6	21.9	24	25	29	34	39
PLAN (#)	2.5	5	7.5	10	12.5	15	17.5	20	22.5	25	27.5	30



I look forward to your Questions